

Serial No.: 09/980,043
Amendment Dated: April 25, 2005
Response to Office Action Mailed: February 23, 2005

REMARKS

With the entry of the above amendments, claims 167-169, 171-183, 187-188, 191-200 and 202-210 are pending in this application. Applicants have amended claims 171-172, 176, 181, 183, 188 and 200, and canceled claims 170, 185, 190 and 201. Claims 207-214 are new.

Support for the amendment to claims 171, 176, 181, 183 and 200 can be found at least at p. 14, lines 3 to 22. Support for the amendment to claim 172 can be found at least at page 11, line 9, and page 14, lines 3 to 22. Support for the amendment to claim 188 can be found at least at p. 11, lines 12-15; p. 14, lines 3 to 22 and 16-29; p. 20, lines 20-26 and pp. 22-24.

Support for claim 207 is found at page 11, lines 7-9. Support for claims 208-209 is found at page 12, line 15 to page 13, line 2, at pages 22-25 and page 26, line 29 to page 27 line 2. Support for claim 210 can be found at page 11, line 9. Support for claim 211 is found at page 13, lines 34-36. Support for claims 212-213 is found at page 14, lines 2-26. Support for claim 214 is found at page 11, lines 12-14.

Applicants respectfully submit that no new matter has been added.

Applicants wish to thank the Examiner for her indication that claims 167-169, 173-175, 179, 180, 193-199 and 204-206 recite allowable subject matter. Applicants' attorney also wishes to thank the Examiner for the courtesy extended in the telephone interview of April 23, 2005, in which the previous office action was discussed.

The Examiner objected that the claims 177, 178, 188, 196 and 201 were not properly marked in the Office Action response of November 16, 2004. To comply with 37 CFR 1.121 Applicants enclose herewith a corrected marked up copy of claims, reflecting the amendments submitted with the response mailed November 16, 2004. Amendments submitted in response to the February 23, 2005 Office Action are made with reference to previously amended claims.

Claims 170-172, 176-178, 181-183, 187-188, 191-192, 200 and 202-203 stand variously rejected as follows.

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CLAIM OBJECTIONS

Claims 174 and 177, and 175 and 178 were objected as duplicates and claims 196 and 201 were objected to for lack of clarity. These claims have been amended to address the objections and Applicants request, therefore, that the objection to claims 174, 175, 177, 178, 196 and 201 be withdrawn.

CLAIM REJECTIONS

Claim Rejections Under 35 U.S.C. § 101

Claims 171-172 stand rejected under 35 USC § 101 as directed to non-statutory subject matter. Applicants have amended claims 171 and 172 to recite "isolated" consistent with the Examiner's suggestion, and request that this rejection be withdrawn.

Claim Rejections Under 35 U.S.C. § 112, second paragraph

Claims 170, 176, 183, 185 and 188 stand rejected under 35 USC § 112, second paragraph. Claims 170 and 185 are canceled. Claim 176 has been amended to recite "wherein the polypeptide has UDP-glucose binding activity" to more clearly define the metes and bounds of the claim. Claim 183 has been amended to remove the term "corresponds" which the Examiner had deemed unclear. Claim 188 has been amended for clarity. Applicants submit that the amendments obviate the Examiner's objections and request that the objections to claims 176, 183 and claims 185 and 188 which depend from claim 183 be withdrawn.

Claim Rejections Under 35 U.S.C. § 112, first paragraph

Claims 172 and 201 stand rejected for containing new matter, that is, subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. In the interest of furthering prosecution, and without conceding that the Examiner's assertions have any merit, Applicants have canceled claim 201 and have amended claim 172 to recite: "An isolated polynucleotide comprising SEQ ID NO:

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4." Applicants submit that this amendment obviates the Examiner's new matter objection, and request that this objection be withdrawn.

Claims 170-172, 176-178, 181-183, 185, 187-188, 191-192, 200 and 202-203 were rejected under 35 USC § 112, first paragraph as failing to comply with the Written Description Requirement. The rejections are traversed inasmuch as they may be applied to the amended and newly presented claims, as discussed below.

The Manual of Patent Examining Procedure (MPEP) provides:

A description as filed is **presumed to be adequate, unless or until sufficient evidence or reasoning to the contrary has been presented by the examiner** to rebut the presumption. See, e.g., *In re Marzocchi*, 439 F.2d 220, 224, 169 USPQ 367, 370 (CCPA 1971). [...]

In rejecting a claim, the examiner **must set forth express findings of fact** which support the lack of written description conclusion. These findings should: [...] Establish a *prima facie* case by providing reasons why a person skilled in the art at the time the application was filed would not have recognized that the inventor was in possession of the invention as claimed in view of the disclosure of the application as filed.

MPEP § 2163.04 (emphasis added)

Applicants respectfully submit that the Examiner has failed to make a *prima facie* case as to why a person skilled in the art at the time the application was filed would not have recognized that the inventor was in possession of the invention as claimed in view of the disclosure of the application as filed. Specifically, the Examiner has not set forth express findings of fact which support the lack of written description conclusion.

In the interests of furthering prosecution, claims 171, 172, 176, 181, 183 and 200 have been amended to recite: "wherein the polypeptide has UDP-glucose binding activity," and claim 172 has been amended to recite: "a polypeptide having UDP-glucose binding activity." Amended claims 171, 172, 176 181 are drawn to SEQ ID NO: 4 and SEQ ID NO: 5, sequences which are described in the specification and provided in the sequence listing of the application. One of skill in the art, therefore, would have no doubt that Applicant was in possession of either SEQ ID NO: 4 or 5.

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Neither would one of skill in the art have any doubt that Applicants were in possession of sequences that would have UDP-glucose binding activity. Applicants respectfully draw the Examiner's attention to the Specification at page 14, lines 3-22 for support for the amendment and for satisfaction of the Written Description requirement. The Specification discloses at page 14, lines 7-9 "a fragment of any cellulose synthase (such as *PtCelA*, *RSW1*, *GhCelA* and SEQ ID NO: 5) that contains a UDP-glucose binding domain and is independently functional is within the scope of the invention." (emphasis added). Furthermore, the Specification discloses at lines 3 to 4, that "the cellulose synthase fragment containing the UDP-glucose binding domain is functional without the presence of the rest of the protein." (emphasis added) The Specification also describes at page 14, lines that "the UDP-glucose binding domain of the invention [. . .] has conserved amino acid sequences for UDP-glucose binding, such as the sequence QVLRW." The sequence listing of the application discloses that SEQ ID NO: 5 contains the conserved amino acid sequences for UDP-glucose binding: QVLRW.

Applicants respectfully assert that the above disclosure sets forth support which is more than adequate, such that a person skilled in the art at the time the application was filed would clearly recognize that Applicants were in possession of the invention as claimed in view of the disclosure of the application as filed. The Examiner has provided no evidence or reasoning to the contrary that would suggest that the disclosure of novel sequences (SEQ ID NO: 4 and 5) having a described function (see page 14, lines 3 to 22), is inadequate to support claims 171 and 172.

While the Examiner has asserted that transgenic plants comprising SEQ ID NO: 4 or 5 were not made, Applicants respectfully point out that this is **not** required to satisfy the Written Description requirement of 35 U.S.C. § 112. The MPEP provides:

An applicant shows possession of the claimed invention by describing the claimed invention with all of its limitations using such descriptive means as words, structures, figures, diagrams, and formulas that fully set forth the claimed invention. *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (Fed. Cir. 1997). Possession may be shown in a variety of ways including description of an actual reduction to practice, or by showing that the invention was "ready for patenting" such as by the disclosure of drawings or structural chemical formulas that show that the invention was complete, or by describing distinguishing identifying

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characteristics sufficient to show that the applicant was in possession of the claimed invention.

MPEP § 2163 (emphasis added)

Thus, it is not necessary for an applicant to actually reduce to practice the invention to satisfy the Written Description requirement. For claims 176-178, 181-182, 200 and 202-203, in addition to the disclosure described above, the specification adequately discloses, at pages 22-25, methods for transforming plant cells, plants and trees with the disclosed sequences and at page 12, lines 37 to 38 discloses that "transgenic plants containing polynucleotides described herein are also within the scope of the invention." For claim 181-182, the introduction of the novel sequences into vectors is described at page 12, lines 15 to 16. The Examiner has provided no express findings of fact which support the lack of written description conclusion and has therefore not made a *prima facie* case as to why the Written Description requirement is not satisfied. Applicants request, therefore, that the objection to claims 171, 172, 176-178, 181-182, 200 and 202-203 be withdrawn.

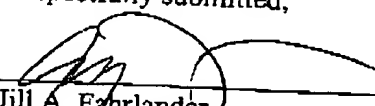
The Examiner indicated that the rejection under 35 U.S.C. § 112, first paragraph of claims 183, 185, 187-188 and 191-192 would be withdrawn if a limitation was introduced that the polypeptide has cellulose synthase activity. In the interests of furthering prosecution, Applicants have amended claim 183 to recite "wherein the polypeptide has cellulose synthase activity or UDP-glucose binding activity." Applicants submit that these amendments place claim 183 and claims 187-88 and 191-192, which depend from claim 183 in condition for allowance, and request that the rejection of these claims be withdrawn.

CONCLUSION

In view of the amendments and remarks presented herein, reconsideration and allowance of claims 170-172, 176-178, 181-183, 187-188, 191-192, 200, 202-203 and 207-212 is respectfully requested. The Examiner is strongly encouraged to contact the undersigned by telephone at the Examiner's convenience should any issues remain with respect to the Application.

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Respectfully submitted,


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